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www.sughrue.com

Paul F. Neils T (202) 663-7367 pneils@sughrue.com

December 19, 2001

### **BOX PCT**

Commissioner for Patents Washington, D.C. 20231

PCT/FR00/01879 -filed July 3, 2000

Re:

Application of Stephane LINGLET

BLOWING MACHINE WITH DOUBLE CAVITY MOULDS

Assignee: SIDEL Our Ref: **O67646** 

Dear Sir:

The following documents and fees are submitted herewith in connection with the above application for the purpose of entering the National stage under 35 U.S.C. § 371 and in accordance with Chapter II of the Patent Cooperation Treaty:

- □ an executed Declaration and Power of Attorney.
- an English translation of the International Application.
- 4 sheets of drawings.
- an English translation of Article 19 claim amendments.
- □ an English translation of Article 34 amendments (annexes to the IPER).
- an executed Assignment and PTO 1595 form.
- ☑ a Form PTO-1449 listing the ISR references and a copy of the ISR.
- a Preliminary Amendment.

The Declaration and Power of Attorney and Assignment documents will be submitted at a later date.

It is assumed that copies of the International Application, the International Search Report, the International Preliminary Examination Report, and any Articles 19 and 34 amendments as required by § 371(c) will be supplied directly by the International Bureau, but if further copies are needed, the undersigned can easily provide them upon request.

It is requested that the Preliminary Amendment is referred to before calculating the filing fee.

# 10/018474

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The Government filing fee is calculated as follows:

TOTAL FEE \$890.00

A check for the statutory filing fee of \$890.00 is attached. You are also directed and authorized to charge or credit any difference or overpayment to Deposit Account No. 19-4880. The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16, 1.17 and 1.492 which may be required during the entire pendency of the application to Deposit Account No. 19-4880. A duplicate copy of this transmittal letter is attached.

Priority is claimed from:

Country

Application No

Filing Date

France

99/08817

July 5, 1999

Respectfully submitted,

SUGHRUE MION, PLLC

2100 Pennsylvania Avenue, N.W. Washington, D.C. 20037-3213 Telephone: (202) 293-7060

Facsimile: (202) 293-7860

Date: December 19, 2001

Paul F. Neils Registration No. 33,102

Attorney Docket No.: Q67646

PATENT APPLICATION

531 Rec'd PCT.TT1 1 9 DEC 2001

#### IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Stephane LINGLET

PCT/FR00/01879

Appln. No.: Not Yet Assigned

Confirmation No.: Unknown

Group Art Unit: Not Yet Assigned

Filed: December 19, 2001 Examiner: Not Yet Assigned

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For: BLOWING MACHINE WITH DOUBLE CAVITY MOULDS

#### PRELIMINARY AMENDMENT

Commissioner for Patents Washington, D.C. 20231

Sir:

Prior to examination, please amend the above-identified application as follows:

#### IN THE TITLE:

Please delete the present title and replace it with the following new title:

-- BLOWING MACHINE WITH DOUBLE CAVITY MOULDS--

#### IN THE CLAIMS:

Please enter the following amended claims:

3. (Amended) Blow-molding machine according to claim 1, characterized in that the blow-molding station (10) has means (50) for inhibiting the second nozzle, called the passive nozzle, so that it is isolated from the source of pressurized fluid.

- 5. (Amended) Blow-molding machine according to claim 1, characterized in that the nozzles (24) are movable with respect to the blow-molding unit (26) between a retracted position and a blow-molding position, and in that the one-impression configuration the second nozzle, called the passive nozzle, is immobilized in a retracted position.
- 6. (Amended) Blow-molding according to claim 1, characterized in that during the blow-molding, each preform (12) is drawn with a drawing rod (30) which is axially engaged inside the preform, through the respective blow-molding nozzle (24), in that the blow-molding station (10) has a drawing carriage (32) that is guided axially on the frame element (22), and in that the carriage (32) has a first and second mounting location each intended to receive a drawing rod (30) when the machine is in the two-impression configuration, and a third mounting location that is used exclusively to receive a drawing rod (30) when the machine is in the one-impression configuration, said location being aligned with the principal axis (A4) of the mold carrier unit (20).

#### IN THE ABSTRACT:

#### Please add the following Abstract of the Disclosure:

A rotary machine for blowing thermoplastic containers starting with a previously injected preform, comprising several blowing stations (10) each of which can bear a double cavity mould (16), wherein each station includes a blowing unit (26) which is fixed on a mount frame element

(22) and provided with two blow nozzles (24). The machine can be transposed into a single cavity configuration wherein each station bears a single cavity mould (36), and the blowing unit (26) includes a second position for being fixed on the mount frame element wherein one of the nozzles (24) is arranged to correspond with the main axis (A4) of the single moulding cavity (38) of the single cavity mould (36).

#### REMARKS

The foregoing amendments are made in order to remove multiple dependencies and avoid the Government surcharge, as well as make editorial changes to conform with U.S. Practice. The changes have not been made for reasons related to patentability.

Entry and consideration of this Amendment is respectfully requested.

Respectfully submitted,

Paul F Neils

Registration No. 33,102

SUGHRUE MION, PLLC 2100 Pennsylvania Avenue, N.W. Washington, D.C. 20037-3213

Telephone: (202) 293-7060 Facsimile: (202) 293-7860

Date: December 19, 2001

Attorney Docket No.: O67646

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PRELIMINARY AMENDMENT National Stage Entry of PCT/FR00/01879

#### APPENDIX

#### VERSION WITH MARKINGS TO SHOW CHANGES MADE

#### IN THE TITLE:

The title is changed as follows:

[MACHINE FOR BLOW-MOLDING TWO-IMPRESSION MOLDS] <u>BLOWING</u>

MACHINE WITH DOUBLE CAVITY MOULDS

#### IN THE CLAIMS:

The claims are amended as follows:

- 3. (Amended) Blow-molding machine according to [either of the preceding claims] claim 1, characterized in that the blow-molding station (10) has means (50) for inhibiting the second nozzle, called the passive nozzle, so that it is isolated from the source of pressurized fluid.
- 5. (Amended) Blow-molding machine according to [any of the preceding claims] claim 1, characterized in that the nozzles (24) are movable with respect to the blow-molding unit (26) between a retracted position and a blow-molding position, and in that the one-impression configuration the second nozzle, called the passive nozzle, is immobilized in a retracted position.

6. (Amended) Blow-molding according to [any of the preceding claims] claim 1, characterized in that during the blow-molding, each preform (12) is drawn with a drawing rod (30) which is axially engaged inside the preform, through the respective blow-molding nozzle (24), in that the blow-molding station (10) has a drawing carriage (32) that is guided axially on the frame element (22), and in that the carriage (32) has a first and second mounting location each intended to receive a drawing rod (30) when the machine is in the two-impression configuration, and a third mounting location that is used exclusively to receive a drawing rod (30) when the machine is in the one-impression configuration, said location being aligned with the principal axis (A4) of the mold carrier unit (20).

#### IN THE ABSTRACT OF DISCLOSURE:

The abstract is changed as follows:

A rotary machine for blowing thermoplastic containers starting with a previously injected preform, comprising several blowing stations (10) each of which can bear a double cavity mould (16), wherein each station includes a blowing unit (26) which is fixed on a mount frame element (22) and provided with two blow nozzles (24). The machine can be transposed into a single cavity configuration wherein each station bears a single cavity mould (36), and the blowing unit (26) includes a second position for being fixed on the mount frame element wherein one of the nozzles (24) is arranged to correspond with the main axis (A4) of the single moulding cavity (38) of the single cavity mould (36).

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The invention concerns rotary machines for blow-molding containers made of thermoplastic material in which the container is obtained by blow-molding a preform previously produced by injection molding.

More particularly, it concerns machines having at least one blow-molding station in which a mold carrier unit carries a two-impression mold having two mold cavities each of which is intended to receive one preform. In this case the blow-molding station comprises a blow-molding unit provided with two blow-molding nozzles that are movable between a retracted position and a blow-molding position in which the nozzles can inject the fluid under pressure into the preforms in order to blow-mold the containers. To do this, the blow-molding unit is mounted on a frame element of the blow-molding station in such a way that the two nozzles are placed on either side of a central axis of the mold carrier unit, in correspondence with the principal axes of the two blow-molding cavities.

The invention will be more particularly intended to be implemented on rotary machines comprising several blow-molding stations arranged on a rotor driven in continuous rotational movement. These rotary machines make it possible to achieve high rates of production. The design of two-impression machines, in which each blow-molding station can proceed with the simultaneous blow-molding of two containers, makes it possible to increase the production rate even more while decreasing the unit price of the containers thus produced.

However, the containers that can be manufactured with these two-cavity molds are small in volume. Indeed, the size of the two containers is limited by the size of the mold, which in turn is limited by the size of the mold carrier unit. But mold-carrier units that are too large in size can not be loaded on a rotary machine because this would result in excessively increasing the inertia of the machine's rotor. Thus, in the high-speed rotary machines that are currently known, the maximum volume of the containers that can be produced in a two-impression mold is less than one liter.

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As it happens, however, in many cases the products that are sold in such containers, particularly drinks, are sold in containers of different sizes. Thus, a producer may wish to have containers of different formats, but in every case these containers must be produced under the most advantageous conditions.

Nonetheless, until now, in order to produce low cost containers, it was necessary to have two types of machines: one two-impression machine for small-volume containers, and one one-impression machine for larger containers.

In order to remedy this, a purpose of the invention is to propose a new design of a blow-molding machine that makes it possible to produce both types of containers at the lowest cost, the same machine being able to be configured to produce one or two containers per blow-molding station, without requiring excessive modifications of the machine to change over from one type of production to the other.

To accomplish this, the invention proposes a machine of the type previously described, characterized in that the machine can be changed over to a one-impression configuration in which the mold-carrier unit carries a one-impression mold comprising a single mold cavity the axis of which is appreciably the same as the principal axis of the mold-carrier unit, and in that the blow-molding unit has a second mounting position on the frame element in which the first of two nozzles, called the active nozzle, is arranged in correspondence with the principal axis of the only molding cavity of the one-impression mold.

According to other characteristics of the invention:

- the blow-molding unit is moved by sliding between its two mounting positions on the frame:
- the blow-molding station has means for inhibiting the second nozzle, called the passive nozzle, so that it is isolated from the source of pressurized fluid;
- both nozzles are fed by pressurized fluid from a common source through a distributor that is incorporated into the blow-molding unit, and the distributor has means for isolating the passive nozzle from the source of pressurized fluid;
- the nozzles are movable with respect to the blow-molding unit between a retracted position and a blow-molding position, and in the one-impression configuration

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the second nozzle, called the passive nozzle, is immobilized in a retracted position;

- during the blow-molding, each preform is drawn with a drawing rod which is axially engaged inside the preform, through the respective blow-molding nozzle; the blow-molding station has a drawing carriage that is guided axially on the frame element; the carriage has a first and second mounting location each intended to receive a drawing rod when the machine is in the two-impression configuration, and a third mounting location that is used exclusively to receive a drawing rod when the machine is in the one-impression configuration, said location being aligned with the principal axis of the mold carrier unit.

Other characteristics and advantages of the invention will become apparent from the detailed description that follows, as well as in the attached drawings in which:

- figures 1 and 2 are diagrammatic views, in partial cross section along a radial plane, of the rotor of a machine according to the invention, in which a blow-molding station is illustrated in two-impression and one-impression configuration, respectively;
- figures 3 and 4 are diagrammatic views in perspective of a blow-molding unit of a machine according to the invention, in two-impression and one-impression configuration, respectively.

Represented in figure 1 is a blow-molding station 10 intended for a machine to blow-mold containers from preforms 12 previously produced by injection molding.

This station 10 is of the two-impression type allowing two containers to be produced simultaneously from two preforms 12 simultaneously engaged in a two-impression mold 16 carried by a mold carrier unit 20 of the station 10. The mold 16 is in two parts, each part having two semi-cavities 18 in the shape of the container to be produced. The mold carrier unit 20 is also in two parts, each of which carries one part of the mold 16. The two parts of the mold carrier unit 20 are, for example, articulated around an axis A1 both with respect to each other as well as to a frame 22 of the blow-molding station 10. The blow-molding station 10 is preferably part of a rotor of a

rotary machine comprising several identical blow-molding stations, the rotor being driven in a continuous rotational movement around an axis A0.

As can be seen in the figures, the axes A0 and A1 are parallel and define a radial plane of the rotor of the machine. This radial plane, which is the plane of figures 1 and 2, is also the joint plane of the two parts of the mold 16.

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In the illustrated example, it can be seen that the cavities 18 of the mold 16 are arranged along axes A2 and A3 contained in the radial plane, parallel to the axes A0 and A1, and they are offset along the radial direction. The two cavities are arranged in the mold so that they are appreciably symmetrical on either side of a principal axis A4, appreciably central, of the mold 16 and of the mold carrier 20.

For the clarity of the description, the axes A0 to A4 will be considered to be vertical and the containers are molded with their open end upward as represented in the figures. However, this arbitrary choice should not be considered as a limitation to the scope of the invention.

The compressed air used for blow-molding the containers is fed to the preforms 12 held in the mold by blow nozzles 24 which are axially movable between an upper retracted position, as illustrated in the figures, and a lower position, not represented, in which the nozzles can sealably cooperate with the preforms. In the illustrated example, the nozzles have a lower bell-shaped end that is intended to press sealably against an upper face of the mold 16, around the open end of the preform 12 which extends above said upper face of the mold 16.

In the illustrated example, each nozzle 24 is made in the form of an independent sliding part that is mounted in a blow-molding unit 26. The movements of the two nozzles are controlled independently. In this instance, each nozzle 24 forms a piston that delimits in the blow-molding unit 26 chambers of variable volume. The axial movements of the nozzles can be controlled by feeding compressed air into these chambers.

It can be seen that the two nozzles 24 are arranged respectively along the axes A2 and A3 of the cavities 18 of the two-impression mold.

Moreover, the blow-molding station has two drawing rods 30 that are arranged along the axes A2 and A3, each of which rods can slide through one of the nozzles 24. The removable upper ends of the rods 30 are attached to a carriage 32 that slides axially with respect to the frame 22 and which is controlled by a drawing cylinder 34. During the blow-molding, the drawing cylinder 34 causes the carriage 32 to descend so that the lower end of the rods 30 engages inside the respective preform 12 to control the axial drawing of that preform.

According to the invention, the blow-molding station 10 is designed to be able to change over easily from a two-impression configuration, as has just been described, to a one-impression configuration in which only one container is produced per mold and per cycle.

Thus, as can be seen in figure 2, the mold carrier unit 20 can receive, without being modified or moved, a one-impression mold 36 that has only one cavity 38. The cavity 38 is then preferably arranged appreciably at the center of the mold, along the principal axis A4, in such a way as to increase the available volume while still preserving a nearly symmetrical distribution of the material in the mold 36.

With such a mold, it would be impossible to use the blow-molding unit 26 in its configuration of figure 1 because the axis A4 of the cavity 38 does not coincide with either of the two axes A2 and A3 of the nozzles 24 in a two-impression configuration. Also, according to the invention, the blow-molding unit 26 can be moved simply by sliding it in the radial direction so as to move the axis of one of the two nozzles 24 to correspond with the axis A4 of the cavity 38. This nozzle, called active, will be the only one operational in this one-impression configuration of the blow-molding unit 26. The other nozzle, called passive, is intended to be immobilized in its upper retracted position.

It can be seen in the figures that the blow-molding unit 26 is mounted on a horizontal plate 40 of the frame 22. This plate has an opening 42 made in it through which the nozzles 24 extend downward toward the molding unit. The opening 42 is elongated in the radial direction to allow the blow-molding unit to be changed from one to the other of its two positions. The blow-molding unit 26, therefore, has

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transverse flanges that rest on the plate 40 and, for example, the block can be mounted by screws in one or the other of its two positions. Preferably the edges of the opening 42 guide the block, but additional means (not represented) can also be anticipated to ensure the precise positioning of the block in each of its two positions.

Figures 3 and 4 diagrammatically represent the blow-molding unit according to the invention, as well as the means that make it possible to inhibit the feed of the passive nozzle with compressed air. In the illustrated blow-molding unit, the blow-molding air under high pressure is injected, for each nozzle, into an upper chamber delimited in the blow-molding unit by this nozzle.

More specifically, the blow-molding unit 26 has an air distributor 43 which is integral with the unit 26 and which is connected by an intake port 52 to the source of compressed air, and to each of the two nozzles 24 through two orifices 44. The distributor thus has a cylindrical distribution channel 46 into which the two orifices 44 open as well as the intake port 52 connected to the source of compressed air. This channel 46 is blocked at one end by an interchangeable plug.

In the two-impression configuration, the plug is a short plug 48 which only prevents the compressed air from escaping directly to the outside but does not block either the orifices 44 or the intake port 52.

However, as can be seen in figure 4, the plug used in one-impression configuration is a long plug 50 that extends into the channel 46 in such a way that it also blocks the orifice 44 that communicates with the passive nozzle. Of course, the long plug does not block either the second orifice 44 or the intake port 52. Thus, isolating the passive nozzle from the source of compressed air prevents any unnecessary consumption of air.

In the illustrated example, the blow-molding unit is made from one single piece. However, the block can also be made from two separate nozzle holders that can be moved between two positions.

According to another aspect of the invention, it can be seen that the carriage 32 has a third attachment means for receiving a drawing rod 30 according to a position arranged on the axis A4. In the one-impression configuration,

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the two rods used in the two-impression configuration are removed in order to replace them with a single rod placed at the third position. This rod then extends along the axis A4 through the active nozzle. Because of this arrangement, it is not necessary to move the carriage 32 or the drawing cylinder 34 when changing the blow-molding station 10 from one configuration to another.

Thanks to the invention, it is therefore easy to use the machine with either oneimpression molds or two-impression molds. Apart from the molds, no specific part is required, with the possible exception of a drawing rod of different length. The change of configuration is accomplished simply by moving the blow-molding unit, without the need for connecting different pneumatic lines that connect it to the different circuits of the machine, if it is decided to use flexible lines.

Thus, a low-cost machine is obtained that is capable of producing, under optimal technical and economical conditions, containers of very different volumes.

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#### CLAIMS

1. Rotary machine for blow-molding containers made of thermoplastic material from a previously injected preform, of the type having several blow-molding stations (10) mounted on a rotor driven continuously in rotation, of the type in which each blow-molding station has a mold carrier unit (20) that can carry a two-impression mold (16) having two mold cavities (18) each of which is intended to receive a preform (12), of the type in which each blow-molding station has a blow-molding unit (26) furnished with two blow-molding nozzles (24) that can inject the pressurized fluid into the preforms (12) is mounted on a frame element (22) of the blow-molding station in such a way that the two nozzles (24) are arranged on either side of the principal axis (A4) of the mold-carrier unit (20), in correspondence with the principal axes (A2, A3) of the two molding cavities (18).

characterized in that the machine can be changed over to a one-impression configuration in which the mold-carrier unit (20) carries a one-impression mold (36) comprising a single mold cavity (38) the axis of which is appreciably the same as the principal axis (A4) of the mold-carrier unit (20), and in that the blow-molding unit (26) has a second mounting position on the frame element in which the first of two nozzles (24), called the active nozzle, is arranged in correspondence with the principal axis (A4) of the only molding cavity (38) of the one-impression mold (36).

- Blow-molding machine according to claim 1, characterized in that the blow-molding unit (26) is moved by sliding between its two mounting positions on the frame (22).
- 3. Blow-molding machine according to either of the preceding claims, characterized in that the blow-molding station (10) has means (50) for inhibiting the second nozzle, called the passive nozzle, so that it is isolated from the source of pressurized fluid.

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- 4. Blow-molding machine according to claim 3, characterized in that both nozzles (24) are fed by pressurized fluid from a common source through a distributor (43) that is incorporated into the blow-molding unit (26), and the distributor has means (50) for isolating the passive nozzle from the source of pressurized fluid.
- 5. Blow-molding machine according to any of the preceding claims, characterized in that the nozzles (24) are movable with respect to the blow-molding unit (26) between a retracted position and a blow-molding position, and in that the one-impression configuration the second nozzle, called the passive nozzle, is immobilized in a retracted position.
- 6. Blow-molding according to any of the preceding claims, characterized in that during the blow-molding, each preform (12) is drawn with a drawing rod (30) which is axially engaged inside the preform, through the respective blow-molding nozzle (24), in that the blow-molding station (10) has a drawing carriage (32) that is guided axially on the frame element (22), and in that the carriage (32) has a first and second mounting location each intended to receive a drawing rod (30) when the machine is in the two-impression configuration, and a third mounting location that is used exclusively to receive a drawing rod (30) when the machine is in the one-impression configuration, said location being aligned with the principal axis (A4) of the mold carrier unit (20).

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FR/FR1: Avenue de la Patrouille de France, Octeville-surmer, Boîte postale 204, F-76053 Le Havre Cedex (FR). (72) Inventeur; et (75) Inventeur/Déposant (pour US seulement): LINGLET,

(71) Déposant (pour tous les États désignés sauf US): SIDEL

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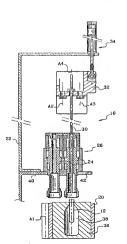
Stéphane [FR/FR]; Sidel, Boîte postale 204, F-76053 Le Havre Cedex (FR). (74) Mandataires: PUTET, Gilles etc.; Sidel, Sce Propriété

Industrielle, Boîte postale 204, F-76053 Le Havre Cedex (81) États désignés (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU,

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(54) Title: BLOWING MACHINE WITH DOUBLE CAVITY MOULDS

(54) Titre: MACHINE DE SOUFFLAGE A MOULES BI-EMPREINTES



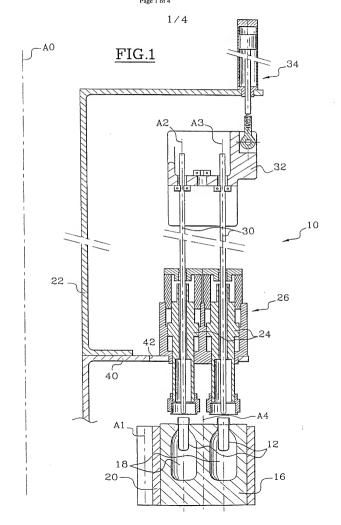
(57) Abstract: The invention concerns a rotary machine for blowing thermoplastic containers starting with a previously injected preform. comprising several blowing stations (10) each of which can bear a double cavity mould (16), wherein each station comprises a blowing unit (26) which is fixed on a mount frame element (22) and provided with two blow nozzles (24). The invention is characterised in that the machine can bé transposed into a single cavity configuration wherein each station bears a single cavity mould (36), and the blowing unit (26) comprises a second position for being fixed on the mount frame element wherein one of the nozzles (24) is arranged to correspond with the main axis (A4) of the single moulding cavity (38) of the single cavity mould (36).

(57) Abrégé: L'invention propose une machine rotative de soufflage de récipients thermoplastiques à partir d'une préforme préalablement injectée, du type comportant plusieurs postes de soufflage (10) dont chacun peut porter un moule bi-empreinte (16), du type dans lequel chaque poste comporte un bloc de soufflage (26) qui est fixé sur un élément de bâti (22) et qui est muni de deux tuyères de soufflage (24), caractérisée en ce que la machine peut être transposée dans une configuration mono-empreinte dans laquelle chaque poste porte un moule mono-empreinte (36), et en ce que le bloc soufflage (26) comporte une seconde position de fixation sur l'élément de bâti dans laquelle une des deux tuyères (24) est agencée en correspondance avec l'axe principal (A4) de l'unique cavité de moulage (38) du moule mono-empreinte

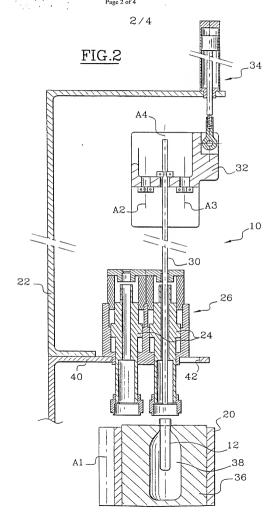
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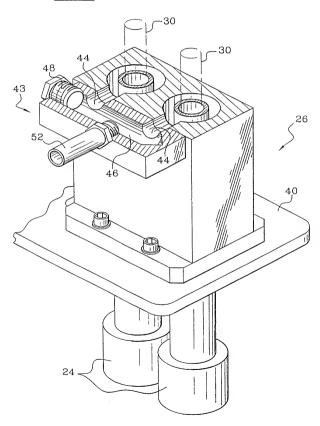
Atty Docket: Q67646 / Atty Phone: (202) 293-7060
BLOWING MACHINE WITH DOUBLE CAVITY MOULDS
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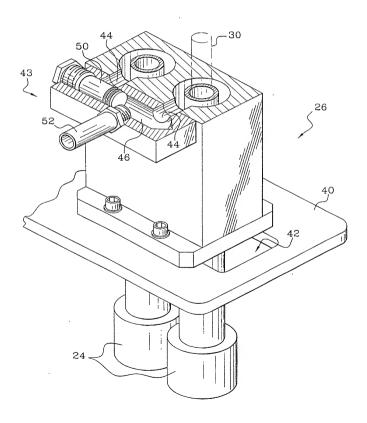
FIG.3



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## FIG.4



# Declaration and Power of Attorney for Patent Application Déclaration et pouvoirs pour demande de brevet

#### French Language Declaration

French Language Declaration		
. En tant que l'inventeur nommé ci-après, je déclare par le présent acte que :	As a below named inventor, I hereby declare that:	
Mon domicile, mon adresse postale et ma nationalité sont ceux figurant ci-dessous à côté de mon nom.	My residence, mailing address and citizenship are as stated next to my name.	
Je crois être le premier inventeur original et unique (si un seul nom est mentionné ci-dessous), ou l'un des premiers co- inventeurs originaux (si plusieurs noms sont mentionnés ci- dessous) de l'objet revendiqué, pour lequel une demande de brevet a été déposée concernant l'invention intitulée	I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled	
	BLOWING MACHINE WITH DOUBLE CAVITY MOULDS	
et dont la description est fournie ci-joint à moins que la case suivante n'ait été cochée :  a été déposée le	the specification of which is attached hereto unless the following box is checked:  was filed on July 3, 2000 as United States Application Number or PCT International Application Number PCT/FR00/01879 (Conf. No. Unknown) and was amended on	

#### French Language Declaration

below.

Je revendique par le présent acte avoir la priorité étrangère, en vertu du Titre 35, § 119(a)-(d) ou § 365(b) du Code des Etats-Unis, sur toute demande étrangère de brevet ou certificat d'inventeur ou, en vertu du Titre 35, § 365(a) du même Code, sur toute demande internationale PCT désignant au moins un pays autre que les Etats-Unis et figurant ci-dessous et, en cochant la case, i'ai aussi indiqué ci-dessous toute demande étrangère de brevet, tout certificat d'inventeur ou toute demande internationale PCT avant une date de dépôt précédant celle de la demande à propos de laquelle une priorité est revendiquée.

I hereby claim foreign priority under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below, and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Prior foreign application(s)
Demande(s) de brevet antérieure(s)

(Number)

99/08817 France (Number) (Country) (Numéro) (Pays)

(Numéro) (Pavs) Je revendique par le présent acte tout bénéfice, en vertu du Titre 35. § 119(e) du Code des Etats-Unis, de toute demande de brevet

provisoire effectuée aux Etats-Unis et figurant ci-dessous.

(Country)

(Application No.) (Filing Date) (Nº de demande) (Date de dépôt) (Application No.) (No de demande) (Filing Date) (Date de dépôt)

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 120 du Code des Etats-Unis, de toute demande de brevet effectuée aux Etats-Unis, ou en vertu du Titre 35, § 365(c) du même Code, de toute demande internationale PCT désignant les Etats-Unis et figurant ci-dessous et, dans la mesure où l'obiet de chacune des revendications de cette demande de brevet n'est pas divulgué dans la demande antérieure américaine ou internationale PCT, en vertu des dispositions du premier paragraphe du Titre 35, § 112 du Code des Etats-Unis, je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations, dont j'ai pu disposer entre la date de dépôt de la demande antérieure et la date de dépôt de la demande nationale ou internationale PCT de la présente demande :

(Filing Date) (Application No.) (N° de demande) (Date de dépôt) (Application No.) (Filing Date) (Nº de demande) (Date de dépôt)

Je déclare par le présent acte que toute déclaration ei-incluse est, à ma connaissance, véridique et que toute déclaration formulée à partir de renseignements ou de suppositions est tenue pour véridique; et de plus, que toutes ces déclarations ont été formulées en sachant que toute fausse déclaration volontaire ou son équivalent est passible d'une amende ou d'une incarcération, ou des deux, en vertu de la Section 1001 du Titre 18 du Code des Etats-Unis, et que de telles déclarations volontairement fausses risquent de compromettre la validité de la demande de brevet ou du brevet délivré à partir de celle-ci.

Priority Claimed

Droit de priorité revendiqué Yes/Qui No/Non п 5 July 1999 (Day/Month/Year Filed) (Jour/Mois/Année de dénôt) П (Day/Month/Year Filed)

(Jour/Mois/Année de dépôt) I hereby claim the benefit under Title 35, United States Code. § 119(e) of any United States provisional application(s) listed

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States. listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

(Status: patented, pending, abandoned) (Statut : breveté, en cours d'examen, abandonné)

(Status: patented, pending, abandoned) (Statut : breveté, en cours d'examen, abandonné)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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POUVOIRS: je désigne par les présentes tous avocats de SUGHRUE MION, PLLC énumérés sous le Numéro de Client USPTO figurant ci-après comme mes avocats pour poursuivre la présente procédure et traiter avec l'Office des brevets et des marques (Patent and Trademark Office) toute affaire en liaison avec celle-ci, reconnaissant formellement que les avocats spécifiques énumérés sous ce Numéro de Client neuvent être modifiés à tout moment, à la discrétion exclusive de Sughrue Mion, PLLC, et demande que toute correspondance relative à la demande soit adressée à l'adresse mentionnée sous le même Numéro USPTO.

POWER OF ATTORNEY: I hereby appoint all attorneys of SUGHRUE MION, PLLC who are listed under the USPTO Customer Number shown below as my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith, recognizing that the specific attorneys listed under that Customer Number may be changed from time to time at the sole discretion of Sughrue Mion, PLLC, and request that all correspondence about the application be addressed to the address filed under the same USPTO Customer Number.

PATENT TRADEMARK OFFICE

Adresser tout appel téléphonique à : (nom et numéro de téléphone)

SUGHRUE MION, PLLC

+1 (202) 293-7060

Direct Telephone Calls to: (name and telephone number)

SUGHRUE MION, PLLC +1 (202) 293-7060

Nom complet de l'unique ou premier inven	iteur 1-0	Full name of sole or first inventor Stephane LINGLET	
Signature de l'inventeur	Date	Inventor's signature	Date の マ/の 5/  で え
Domicile		Residence Le Havre Cedex, France FRX	
Nationalité		Citizenship French	
Adresse postale		Mailing Address Sidel, Boite postale 204, F-76053 Le Havre Cedex, France	
Nom complet du deuxième co-inventeur, le cas échéant		Full name of second joint inventor, if any	
Signature du deuxième inventeur	Date	Second inventor's signature	Date
Domicile		Residence	
Nationalité		Citizenship	
Adresse postale		Mailing Address	